

Claims:

1. A substance that specifically binds a nuclear localization signal (NLS)-containing molecule, or functional fragments or derivatives of said molecule.
2. The substance according to claim 1, wherein said NLS-containing molecule is the HIV-1 protein Vpr.
3. The substance according to claim 2, wherein said NLS-containing molecule is the N-terminal domain of Vpr (amino acids 17-34).
4. The substance according to claim 1, wherein said NLS-containing molecule is the HIV-1 protein Tat.
5. The substance according to claim 4, wherein said NLS-containing molecule is the ARM sequence of Tat.
6. The substance according to any one of claims 1 to 5, wherein said substance, or fragments thereof, is selected from any one of a naturally occurring, synthetic or recombinant antibody, scFv, Fv, Fab', Fab, diabody, linear antibody, F(ab')₂ antigen binding fragment of an antibody, a protein, a peptide and a small molecule.
7. The substance according to claim 6, wherein said substance is a scFv.
8. The substance according to claim 7, wherein said scFv is a recombinant scFv.

9. The substance according to any one of claims 2, 3, 6-8, wherein said substance has a CDR3 region having an amino acid sequence of any one of SEQ. ID. NO. 1, SEQ. ID. NO.3, and SEQ. ID. NO.5.
10. The substance according to claim 9, wherein said amino acid sequence is encoded by the nucleic acid sequence of SEQ. ID. NO. 2, SEQ. ID. NO.4, and SEQ. ID. NO. 6.
11. The substance according to any one of claims 4 to 6, wherein said substance is the p8 protein of the fd bacteriophage.
12. The substance according to claim 11, wherein said substance is a bacteriophage fd p8-derived peptide.
13. The substance according to claim 12, wherein said peptide has the amino acid sequence SEQ. ID. NO.16.
14. A composition comprising at least one substance, wherein said substance is as defined in claims 1 to 13, and optionally further comprising pharmaceutically acceptable diluents, additives and carriers.
15. A vaccine comprising at least one substance, wherein said substance is as defined in claims 1 to 13, and optionally further comprising pharmaceutically acceptable diluents, additives and carriers.
16. A method of specifically inhibiting the import of a NLS-containing molecule into a nucleus of a cell, by contacting said cell with at least one substance as defined in claim 1.

17. A method of inhibiting the import of Vpr into a nucleus of a cell, by contacting said cell with at least one substance as defined in any one of claims 2, 3 and 6 to 10.
18. A method of inhibiting the import of Tat into a nucleus of a cell, by contacting said cell with at least one substance as defined in any one of claims 4 to 6 and 11 to 13.
19. A method of inhibiting the import of the pre-integration complex (PIC) into a nucleus of a cell, by contacting said cell with at least one substance as defined in any one of claims 2, 3 and 6 to 10.
20. A method of inhibiting viral infection by administering at least one substance as defined in any one of claims 1 to 13 to an organism in need.
21. The method according to claim 20, wherein said organism is any one of a plant and a mammal.
22. A method of inhibiting cell proliferation, oncogenesis and autoimmune response, by administering at least one substance as defined in any one of claims 1 to 13 to an organism in need.
23. The method according to claim 22, wherein said organism is a mammal.
24. A method of conferring immunity against a viral infection, by administering to a subject in need a substance as defined in any one of claims 1 to 13, or a vaccine as defined in claim 15.
25. Use of a substance in the preparation of a pharmaceutical composition, wherein said substance is as defined in claims 1 to 13.

26. Use of a substance in the preparation of a vaccine, wherein said substance is as defined in claims 1 to 13.